

CAAJOURNAL

OFFICE OF
INFORMATION AND STATISTICS

T. P. Wright Addresses Royal Aeronautical Society In London

CAA Administrator Tells British Scientists

Of The Promises Of Aviation To Civilization

An aviation industry employing in the United States 12 times as many people as it did before the war, carrying 20 million passengers a year on U. S. lines at 300 miles an hour for three cents a mile, and furnishing "the primary policing medium for a collective security system," is predicted for ten years after the war by T. P. Wright, U. S. Administrator of Civil Aeronautics, in an address delivered in London, England, May 31.

In the 33d Wilbur Wright Memorial Lecture, "Aviation's Place in Civilization" delivered before the Royal Aeronautical Society, Mr. Wright also declared that we are on "the threshold of the greatest period of aeronautical development that has yet been witnessed."

He cited as items which may revolutionize aviation technique, the gas turbine and jet powerplant—these, along with aerodynamic developments, make possible transcending the speed of sound in the not too distant future; electronic devices which will make all-weather operations safe and practicable; and advanced designs of private owner planes which with the helicopter "will supplement the air transport plane as the automobile does the railroad."

Sees Reconciliation of Views—At the first meeting of the new international civil aviation organization, Mr. Wright forecasts, there will be "an appropriate reconciliation effected between the views of those who consider world air transport as an essentially political matter on the one hand or as an economic one on the other."

Mr. Wright's estimate of a 12-fold increase over pre-war employment in U. S. aviation envisions a total of 610,000 in all branches, broken down as follows: manufacturing (including "grass roots" employment in mining aluminum and the like) of personal aircraft, 100,000, transport aircraft 25,000, and military aircraft 210,000; scheduled domestic air transportation, 115,000, international 30,000, and nonscheduled 30,000; aircraft service industries, 80,000, and government, 20,000.

(Editor's Note. Figures from the Bureau of the Census on employment in various industries bring Mr. Wright's prediction regarding the postwar payroll of the aviation industry into bold relief. In 1940, 574,931 persons were employed in the manu-

facture of automobiles and accessories; blast furnaces, steel works and rolling mills, 543,319 and ships, boatbuilding and repairs, 153,364.)

In his economic forecasts, Mr. Wright indicated that "during the 1950's passenger air transportation charges of 2½¢ per mile are within the realm of possibility with express air transportation at rates of the order of 15¢ per ton mile. . . . Certainly passenger travel at 3¢ per passenger miles and express transportation at 20¢ per ton mile is assured." As a result, he anticipated, "carrying of express will advance by leaps and bounds after the war . . . to a point where it will approximate" mail in importance to the airlines. At present 17% of the load is mail and 6% express.

Personal Opinion Only—Making plain that he was expressing his personal opinion and not the policy of the United States Government, Mr. Wright said that the position taken by the British in the final document suggested by them for economic control of international flying "represented a long step toward a solution and can, possibly, with very slight modification, be made the basis of final agreement."

Mr. Wright stressed the need "for subordinating every other consideration to the prevention of future wars." Warning that "acres of gas-filled rockets, poised and aimed at distant cities, can only be stopped by preventing their production and installation," he said that "attempts at in-

(See Wright, last page)

CAA Low Radio Range

Stations Are Equipped

With 200 Auto Monitors

Installation of two hundred automatic radio range monitors at CAA Low Frequency Radio Range Stations in the United States and Alaska now is under way, according to Thomas B. Bourne, Assistant Administrator for Federal Airways.

These two hundred monitors will equip the majority of low frequency CAA facilities, Bourne announced. He pointed out that the development of this equipment was begun in 1942, but final completion was delayed due to war time conditions.

The function of the radio range monitor unit is to recognize certain abnormal or erroneous conditions of radio range operation, and automatically provide warning that such abnormal conditions exist. Two types of warnings are involved, the primary being the transmission of an aural signal on the range frequency for the benefit of the pilot, and a secondary or special warning, not observed by the pilot, transmitted for the benefit of the communicator at the control station, who immediately will initiate corrective action.

Fault Detector—Each monitor installation consists of three main units: a small receiver, a fault detector unit, and a keyer and relay panel.

The small receiver is located directly on the range course to be monitored, usually the approach course (i.e., the course opposite the one crossing the airport) approximately 1,500 feet from the center of the range station site. An underground cable carries power to this unit and also carries back the signal which the receiver picks up.

This signal is fed to a second unit of the monitor in the range building which recognizes the variations in the range signal. The most important abnormal conditions detected are a shift in range

(See Monitors, page 71)

Wallace and Burden Discuss Airport Bill at House Hearing

The important part civil aviation is destined to play in the life of the nation was outlined in the statements of Secretary of Commerce Wallace and Assistant Secretary Burden made at the hearing before the house Interstate and Foreign Commerce Committee on Representative Lea's bill, HR 3170.

Each laid emphasis on the need for quick action if the reservoir of manpower and technical knowledge, developed by the war, is to be fully utilized.

The transition from military to civilian needs must, it was pointed out, be rapid in order to lessen the impact which will follow the curtailment of the huge aircraft industry developed to supply the needs of war.

Salient paragraphs from the statements follow:

Secretary Wallace

"The legislation before this committee recognizes that civil aviation has become of national importance. It represents the first step in our 40 years of aviation history toward the establishment of a long-range Federal-aid program for the construction of airports. Its importance cannot be over-emphasized, for it will govern the development of the American airport system for many years to come.

Civil Aviation Vital—"The rapid expansion of civil aviation is, I feel, particularly vital to our national well-being at this time. We need that expansion to ease the shock of deflation of our huge wartime aircraft industry. We need it even more to strengthen our postwar economy, which will be greatly aided by new industries with important possibilities for growth. We need it if we are to utilize the great aviation resources—both human and technical—created by the war.

"The sharp deflation of that industry has already begun with the reduction of military demand following victory in Europe. We must act promptly to foster the growth of civil aviation if we are to preserve as much as possible this great store of technical ability from dissipation. Every energetic American youth who is able to continue his career in aviation will be a national asset of increasing value over the years to come.

A Great Expansion Expected—"There is thus every reason to expect that a great expansion in civil aviation can be achieved if industry and government both do their part—industry by building better aircraft and operating them more efficiently, government by providing essential ground facilities. I believe that with the aid of the constructive program you are considering civil aviation can become a most important factor in the postwar drive for economic expansion and full employment.

"In addition to being an important industry in its own right civil aviation will make a contribution to our national economy as a whole and to our way of life which will be even greater than its contribution in direct and indirect employment.

"The airplane is already entering upon the stage of development where it will be furnishing transportation to the mass of the American people. Very great further advances in civil aircraft performance are assured in the coming generation.

"It is entirely conceivable that the economic development of the last half of this century will be keyed to the airplane to a degree which the conservative prophets of today cannot accurately foresee. In endeavoring to encourage that development and to guide it along sound lines we are undertaking a responsibility which may prove of historic importance.

Cooperation Essential—"In order to achieve the expansion which we believe possible, it will be necessary for both industry and government to do

their part. The aircraft industry will I am sure work for this growth with its customary resourcefulness and energy. Government must lend a helping hand in those spheres of activity which are its legitimate concern and particularly in those phases of civil aviation which are still in an early stage of development. Without such a strong government program civil aviation may be employing only a fraction of the numbers which we have estimated above.

The past rate of growth of air transport has unquestionably been greatly accelerated by a constructive government policy in airport construction and air mail payments. Today private flying, though as yet of small importance, offers far greater growth possibilities than did air transport in 1918 when the government program for its assistance was begun. Government policy can affect the rate of growth of private flying to a very great degree. No one knows exactly how rapidly the utility of the airplane to the private owner will increase, but its widespread acceptance cannot be accomplished without a great improvement in our system of airports.

Airports Good Investment—"That improvement can only be achieved on a sound basis by a Federal-aid airport program. There is no doubt in my mind that over a period of years expenditures on a well-planned airport program will prove to be a good investment, for past government assistance to civil aviation has proved an investment in the best sense of the term. By the end of this year the government will have recouped its entire accumulated deficit from air mail payments since 1918—a deficit which once reached two hundred millions. The excess of stamp revenues over the total outlay by the Post Office for this service is now running at a rate approaching 100 million dollars a year. Our great domestic air transport industry has thus been created at no net cost to the government as far as mail payments are concerned.

"It took time to achieve this result and it will take time to realize tangible returns from our investment in airports. We are in effect planting the seed which we have every reason to believe will produce a most valuable crop in the form of an important growth industry.

"Prompt action is important in the matter of airport legislation because the planning and construction of airports is naturally a lengthy process. Thanks to the foresight of your committee a very considerable amount of work has already been done in the presentation of a preliminary national airport plan by the Civil Aeronautics Administration.

"But even after the passage of authorizing legislation and the appropriation of the necessary funds for detailed planning the revision and refinement of that plan in further consultation with the states and communities will take considerable time. A year and a half to two years may well elapse before actual construction can begin on the first airport.

"The vital thing now is to establish a sound and progressive national policy in this all-important field by the passage of basic Federal-aid airport legislation."

Assistant Secretary Burden

"It is particularly fitting that this committee should open hearings today on bills designed to

Lea Airport Bill

HOUSE Bill H.R. 3170, by Congressman Lea, is the eighth bill to be introduced in the present Congress, which would authorize a program of Federal aid for airport development. Under its provisions, the program would take the form of grants to states, cities, counties, and other non-Federal public agencies, on a matching basis, for the development of airports to be owned and maintained by them, with the government sharing in all development costs except those of hangar construction and land acquisition. For this program, \$650,000,000 would be appropriated to the CAA over a period of ten years at a rate of not to exceed \$100,000,000 a year.

In addition to its airport program provisions, this bill contains several proposed amendments to the Civil Aeronautics Act and other laws, the effect of which would be to clarify the powers and functions of the CAA with respect to airports and other air navigation facilities and otherwise improve those laws.

establish a long-range Federal-aid airport program. Recognizing that past airport construction in this country has been the result of work relief and national defense needs, you long ago foresaw the necessity for an orderly well-planned program of airport building if America is to retain its position of world leadership in civil aviation.

"There is no question that the rapid but sound development of civil aviation is of major importance to the economy of the United States. As Secretary Wallace has outlined, it can, if intelligently promoted, develop within the next five to ten years into an industry which will be sufficiently large to make an important direct contribution to our national economy in terms of jobs, annual revenues, and taxes.

Effects Far-Reaching—"There is a simple fundamental reason why the expansion of civil aviation will have such far-reaching effects. The airplane has become so commonplace that it is easy to forget that it is a unique kind of a transport vehicle—the only means of transport that is universal in its application. Not only is it independent of geographical barriers but in addition it can perform an enormous variety of functions.

"The little 2-4 passenger personal plane is equivalent to the private passenger car; the 4-6 passenger charter planes are equivalent to the taxi; the 15-20 passenger feeder line transport performs a function similar to the highway bus; while the 40-60 passenger trunk line transport does the same type of work as the de luxe express train. At the top of the scale the great 100-200 passenger transoceanic airliner is comparable to express steamships such as the Queen Mary or Normandie.

"But each of these multitudinous types of aircraft is useless without an airport; and when you provide airports, you are providing facilities for the many different kinds of transportation I have described. The airport is to the airplane what the highway is to the automobile or the harbor to the ship.

"The statement that the airport is the basic facility of civil aviation is thus no mere figure of speech. Our national airport system is the foundation upon which the whole structure of civil aeronautics must be erected. Our present system of airports is seriously deficient. If it is not modern—
(See Wallace, page 71)

Revision of CAR's Becomes Effective July 1 CAB Reports

New Civil Air Regulations, which go into effect July 1, reduce the minimum age limit for private pilot certificates to 17 years and lower the flying time required for such classification. Previously it had been 43 hours for the conventional plane. Under the new ruling it will be 40. For the non-spin type, the time is cut from 30 to 27 hours.

One of the important changes in the new regulations, which were announced by the Civil Aeronautics Board after a study covering a year and a half, provides that the minimum period of dual instruction for a private pilot certificate be increased from 8 to 10 hours.

No Time Limit on Solos—The student, however, may solo at any time his instructor considers him qualified. Further he must have at least two hours of dual instruction time after his first solo.

Glider pilots will be given credit for their time in the non-powered craft. One applying for a private certificate will be allowed 15 hours and candidates for commercial pilot certificates will get 50. This halves the time for private certification and cuts the hours for a commercial rating to 150 solo hours in each case.

One of the most important changes is the elimination of horsepower ratings. In lieu of this rating, recent experience in an aircraft in a horsepower range within 50 percent of that of the aircraft to be flown is required within the preceding 90 days if passengers are to be carried.

Logging Regulations—Part 43, General Operation Rules, requires the logging of only that flight time necessary to substantiate recent experience or that experience necessary to qualify for other pilot certificates or ratings and permits approved mechanical devices for the recording of aircraft flight time and engine running time. While the 100-hour periodic inspection is still required for aircraft operated commercially, other aircraft need have only an annual inspection which may be performed by a person designated by the Administrator. Another major change permits solo flight in any type of aircraft by a pilot holding a valid pilot certificate, regardless of his particular aircraft rating.

Part 49, Transportation of Explosives and Other Dangerous Articles, represents no change in substance but merely groups these rules, formerly under Part 60, in a Part by themselves.

Part 60, Air Traffic Rules, with its modified visibility and proximity to cloud minimums literally gives the first 1,000 feet of airspace back to the pilot who is interested only in contact flight. This rule will permit flight under contact flight rules immediately below the base of the overcast up to a height of 1,000 feet above the surface of the ground or water except in the vicinity of airports where instrument approaches are made.

To provide adequate separation between contact and instrument flight, the minimum altitude for the latter is raised from 1,000 feet to 1,500 feet above the terrain.

This permits safe training operations and local flights around many outlying airports under conditions which prohibit contact flight under the present rules. This rule is combined with a new visibility minimum of one mile off airways or on airways below 1,000 feet except in the vicinity of airports used for instrument approaches. While 500 feet altitude above the terrain remains the general minimum for contact flight, the rule now permits flight at lower altitudes where such flights

(See Revision, page 64)

New CAA General Counsel



Glen D. Woodmansee

Glen D. Woodmansee has been named General Counsel of the Civil Aeronautics Administration.

Mr. Woodmansee, born in Ogden, Utah, May 1, 1897, and educated in law at the University of Utah in Salt Lake City, came to Washington as a lawyer in the solicitor's office of the Department of Commerce in 1933. He served there for about five years, and in that time worked on the early regulations of the Bureau of Air Commerce.

When the Civil Aeronautics Authority was organized in 1938, he became Chief of the Enforcement Section, and when, the authority was reorganized into the Civil Aeronautics Administration and the Civil Aeronautics Board, he became Assistant General Counsel of the CAA. He has served as Acting General Counsel since the resignation of Webb Shadle last November.

After his graduation from law school in 1924, Woodmansee practiced law in Salt Lake City and in Springville, Utah, for nine years.

He is married, has three children and lives at 103 George Mason Drive in Arlington, Va.

Deadline for CPT-WTS Licenses

A deadline of January 1, 1946, for graduates of the Civilian Pilot Training Program and the War Training Service to obtain their pilot's licenses without examination has been set by T. P. Wright, Administrator of Civil Aeronautics.

All flight students who completed the primary and basic flight courses of either the CPT or WTS can obtain their private licenses by submitting proof of graduation. Flight students who completed the advanced and instructor's courses can obtain commercial licenses.

Routine of getting the certificate is to submit documented proof of graduation to any CAA Flight Inspector. Graduates in foreign military service will have to wait until they are able to meet an Inspector in the United States, Hawaii, or Alaska.

Water As a Stimulant

WATER injections to stimulate the performance of air-cooled plane engines will be permitted by the Civil Aeronautics Administration and rating will be granted, provided they are established in accordance with Part 13 "Aircraft Engine Airworthiness."

Once bona-fide ratings are substantiated engine operations at these ratings may be used in appraisal of aircraft performance.

The water injections, for maximum performance will be from about fifteen to twenty percent of the gas flow into the carburetor.

New Aircraft, Engines & Props

A new type propeller has been approved by the CAA. In addition, new models have been added to previously type certificated aircraft, engines, propellers and appliances. The approval numbers and dates of approval are in parenthesis.

New Types

Propellers—

McCauley, model D-1093 two-blade propeller with SS-138 blades; steel hub and blades; 8 ft. 6 in. diameter; adjustable on the ground; 230 hp. 2075 rpm. (Type Certificate No. 815, 4-30-45)

New Models

Aircraft—

Boeing Airplane Co., Wichita Division, models 75 (Army PT-13), A75 (Army PT-13A, -13B, -13C), B75 (Navy N2S-2), E75 (Army PT-13D, Navy N2S5), A75N1 (Army PT-17, -17A, Navy N2S1, -4), B75N1 (Navy N2S-3), D75N1 (Army PT-27); 2-place open or closed land biplane; Engine Lycoming R-680B-4B, R-680B-4C, R-680B-4D or R-680B-4E. (Type Certificate No. 743, 4-21-45)

Boeing Airplane Co., Wichita Division, models A75N1 (Army PT-17, -17A, Navy N2S-1, -4), B75N1 (Navy N2S-3), D75N-1 (Army PT-27); 2 place open or closed land biplane. Engine Continental W-670-6A or W-670-6N. (Type Certificate No. 743, 4-21-45)

Engines—

Ranger, model SGV-770C-2C; 12 cyl. inverted vee aircooled with 3:2 propeller reduction gearing. Rating: Take-off, 550 hp at 3300 rpm; Maximum, except take-off, 500 hp at 3150 rpm to 3000 ft. altitude. Dry weight 765 lbs. 91 octane fuel. (Type Certificate No. 232, 4-30-45)

Franklin, models 6AL-315A3, B3 and E3; 6 cyl. horizontally opposed air cooled—direct drive. Rating: (Model A3) 125 hp at 2320 rpm at sea level for all operations with 73 octane fuel; (Model B3) 130 hp at 2320 rpm at sea level for all operations with 80 octane fuel; (Model E3) 150 hp at 2900 rpm at sea level for all operations with 73 octane fuel. Dry weight 270 lbs. Has provision for mounting a starter, generator and fuel pump. (Type Certificate No. 234, 4-21-45)

Wright, model Double Row Cyclone 739C18BA1; 18 c/l. radial air cooled with 16:7 propeller reduction gearing. Rating: Take-off, 2300 hp at 2800 rpm; Maximum, except take-off, 2000 hp at 2400 rpm to 5500 ft. altitude. Dry weight 2595 lbs. Grade 100/130 fuel. (Type Certificate No. 218, 4-24-45)

Propellers—

Sensenich, model 42K19593; wood; 98 in. diameter; 62 in. pitch; 225 hp. 2100 rpm. (Type Certificate No. 546, 4-30-45)

G. B. Lewis, models L11F, L11F-1, L11F-2; wood; 70 in., 69 in., 68 in. diameter, respectively; 47 in. to 33 in. pitch; 75 hp. 2600 rpm. (Type Certificate No. 797, 4-20-45)

G. B. Lewis, models L11L, L11L-1, L11L-2; wood; 70 in., 69 in., 68 in. diameter, respectively; 47 in. to 33 in. pitch; 75 hp. 2600 rpm. (Type Certificate No. 797, 4-20-45)

Appliances—

Hayes, low pressure wheels, models 6000A, 6000M and 6000MD; 8.50-6. Approved static load per wheel 1500 lbs. (Type Certificate No. 10, 4-30-45)

Airworthiness Certificate Only

Consolidated Vultee, Army BT-13, BT-13A (Navy SNV-1), BT-13B (Navy SNV-2); 2 place closed land monoplane. Engine Pratt & Whitney Wasp Jr. T1B2 or T1B3 or military models R-985-25, -27, -AN-1 or -AN-3. (2-571, 4-21-45)

Consolidated Vultee, Army BT-15; 2 place closed land monoplane. Engine Wright R-975E-3. (2-571, 4-21-45)

New Secret Fighters from Army

Include Many CAA Pilot Graduates

An unannounced number of unidentified young pilots who are veterans of long hours of combat over Europe, are in the United States being "transitioned" from B-25's to the Army's new and more deadly A-26's.

Some day soon they will fly overseas again still unknown because of the highly secret aspects of their training and equipment, but when they reach the "new" front, their presence, if not their names, will be forcefully known to the enemy, which, of course, is Japan.

It would be most interesting to give the names and history of two of these youngsters who started flying puddle-jumpers back in their college days, getting training from their country as civilians and laying foundations for their fame as combat pilots, but the Army's secrecy prevents identification. So one must be "Smith" and the other "Jones." Both are combat veterans, one from the East, one from the West, and one is now instructing the other.

Typical "Unknowns"—"John Smith," 23 years, slender, tall, mature far beyond his years, captain in the Army Air Force, veteran of 64 missions over Africa, Sicily, Italy, and Rumania, is one returned to this country, and back to flight school. He learns to fly all over again, leaves for "a new theatre." He is a product of the Civilian Pilot Training Program.

"William Jones," 23 years, slender, tall, war-seasoned and combat-aged captain in the Army Air Force, veteran of 56 missions in the Solomons, Burma, India, and New Britain is also returned to this country, and back to flight school. He instructs Captain John Smith on tactical details for his missions in the "new theatre." He, too, is a product of the Civilian Pilot Training Program.

Free Scuffing Technique—At the Columbia, S. C., Army Air Base, Captain John Smith, former B-25 pilot of a group which the Army will identify only as "famous bombardment group from the Mediterranean Allied Air Forces" has been through several weeks retraining. He is now an expert on A-26, the new modified Douglas Aircraft which was developed from the A-20. He has been trained in a new type of aerial warfare, the low-level, rocket, machine gun, and para-frog bomb attack. His combat flying will be at tree-top levels, literally. His timing and precision must be perfect. His speed in level flight is well over 300 miles per hour.

Only Two of 300,000—Smith and Jones were two of nearly 300,000 airmen trained in the CPT program, later WTS, of the Civil Aeronautics Administration. They were both trained in the early days when the more seasoned type of civilian instructors dominated the programs, and they were trained well. Safety factors were drummed into their heads until they automatically performed their flying maneuvers the safest possible way, even when they are plowing through enemy gunfire.

Interviewed by a CAA representative on the day of their "graduation" from the Columbia retraining school, they told identical stories. "CPT has saved my neck more than once. It was a grand thing for the country to do. It gave us sound instructions, taught us how to handle ourselves in a tight spot. It gave us a big jump on the other fellows who came into the Air Force with no experience."

"Back in Springfield, Mo., my CPT instructor used to beat my head off about safety, coordination, and timing," Smith said. "I used to think of him often during missions in the Mediterranean. When I'd do something sloppy, I'd unconsciously prick up my ears and wait for him to yell, 'This is an airplane, Bud, not a bull-tongue plow.' When we get where we are going, he will be there with me. CPT was swell. I wouldn't trade it for any experience I've had."

Most Hazardous of All—Some groups of pilots in the European Theatre of Operations will go

direct to their new scene of operations; others will follow Smith's group through the Columbia retraining school. The switch from B-25 to A-26 is not difficult, but low level combat flying is the most dangerous of all, and only the most skillful pilots are chosen for it.

Jones who also must remain anonymous, because he is now on his way to the "new theatre"—and the enemy in that theatre would like to know when the A-26's will arrive—is an example of the results of the CPT program which did much to prepare our Air Forces for the imminent victory. Although he cannot be named at present, he is one, with Major Foss, Captain Mahurin, 19 of the original Doolittle fliers, and other American Aces, who came up from CPT to bring the war directly home to the Axis.

Revisions

(from page 63)

will not involve hazard to persons or property on the ground.

In announcing the new liberalized rules the Board added this note of caution. Along with the greater degree of freedom with respect both to the certification of pilots and to their flying activities goes also a much greater degree of responsibility, and the success of the new rules will depend in large measure upon how well the student, private, and commercial pilot and the flight instructor shoulder this responsibility.

Liaison Weather Man To Advise With CAA

Closer liaison between the Civil Aeronautics Administration and the Weather Bureau to improve international weather forecasting and reporting is expected with the appointment of Robert W. Craig of the Weather Bureau as Liaison Officer with the Civil Aeronautics Administration.

In announcing the creation of the Liaison Office, T. P. Wright, Administrator of Civil Aeronautics, stated that it will implement the discussions at the International Civil Aviation Conference in Chicago, where emphasis was placed on the need for uniformity in international forecasting and reporting.

He was secretary of the Sub-Committee on Meteorological Protection of International Aeronautics at the Chicago conference. Mr. Craig will be the CAA's consultant on all problems relating to meteorology, and will assist the CAA when it plans extensions of the airways system involving weather stations.

He has been with the Weather Bureau since 1931 on assignments at many airport and climatological weather stations, including Wichita, Kansas, Del Rio, Texas, Salt Lake City, Syracuse and San Francisco, and was on special duty at Akron during flight tests of new blimps and dirigibles.

During the war he was on special assignment in Mexico, Central America, Canada, and Europe.

He was born in Des Moines, Iowa in 1909.

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Henry A. Wallace
Secretary of Commerce

Civil Aeronautics Administration
T. P. Wright, Administrator

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INFORMATION
AND STATISTICS



Q—What will be the postwar opportunities in aviation, especially maintenance?—L. T. McC.

A—The Civil Aeronautics Administration has prepared a study on peacetime employment in aviation which shows 90 percent of postwar flying will be in the industrial field. Airway jobs from engineering to maintenance will be available with CAA Communications, Air Traffic Control and Maintenance. The Airways Service of the CAA now employs 6,500 persons. If flying increases as anticipated this number may be expected to double.

Q—I am 17 years old and I would like to know if I can obtain a private pilot license. Will it be necessary for me to pass an examination on meteorology?—J. J.

A—A revision of Civil Air Regulations which becomes effective July 1, 1945, makes candidates who have passed their 17th birthday eligible for examination. Meteorology and navigation are eliminated from the tests for private pilots.

Q—How frequently are flights of military planes made from east and west coast ports?—R. M. I.

A—The Army reports cargo and passenger planes take off for flight to England and Europe every 13 minutes, and one every 15 minutes leaves for flight over the Pacific.

New Edition of Manual 04; Comments Are Requested

Civil Aeronautics Manual 04 has been reprinted and may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 45 cents per copy.

This edition includes all revisions up to July 1, 1944, and for ease of reference incorporates the Civil Air Regulations Part 04 in smaller type immediately preceding the corresponding section of the Manual.

The material contained in the Manual is not mandatory and is intended only to explain and to show acceptable methods of complying with the pertinent requirement. Alternative methods of showing compliance may be used at the option of the applicant.

Any comments or suggestions should be submitted to the Civil Aeronautics Administration, Safety Regulation, Washington 25, D. C. Supplemental and superseding pages will be issued periodically to incorporate any changes to the Regulations or Manual material.

CIVIL AERONAUTICS JOURNAL

Reorganization Of The CAA Announced By Wright

Units Are Regrouped To Facilitate Postwar Increasing Activities

Reorganization of the Civil Aeronautics Administration "to meet the urgent problems of postwar expansion in civil aviation activities, both domestic and foreign," has been announced by T. P. Wright, Administrator of Civil Aeronautics.

"This reorganization, which became effective May 15, is designed first of all to prepare the CAA for more efficient operation and expansion," Mr. Wright said in issuing the plan. "We do not intend to increase the size of CAA beyond the absolute minimum required to give proper service to the flying public and the aviation industry.

Decentralizes Activities—"This reorganization further decentralizes the activities of the CAA, and provides for the determination of policies, procedures and standards in Washington with administration in the field. Our ideal is to put CAA services within easy reach of all who want to fly, all whose business it is to fly, and all who manufacture flying equipment."

Charles I. Stanton continues as Deputy Administrator; however, additional duties now devolve upon him. He brings many years of experience with the Administration to that task.

The principal change lies in the designation of assistant administrators in charge of existing and new services, who will have "responsibility for the development and promulgation of technical and administrative policies, programs, and standards governing the activities of the CAA in Washington and the field, domestic and foreign." Under these assistant administrators, directors of the various services will organize their own activities in accordance with the new plan.

Administrator's Personal Staff—On the Administrator's personal staff are four advisory committees and four special assistants reporting directly to him. The committees are Non-Scheduled Flying, Commerce-CAA State Legislation, Statistical Coordinator and Executive Coordination.

The special assistants are Edward M. Sturhahn, Executive Assistant to the Administrator; Personal Flying, John H. Geisse; Research, Dean R. Brimhall; and State Relations, E. J. Robins.

Also directly responsible to the Administrator are Hervey Law, Manager of the Washington National Airport, John E. Sommers, in charge of the Aircraft Control Office, and Glen D. Woodmansee, General Counsel, and a Plans and Performance Staff, yet to be announced.

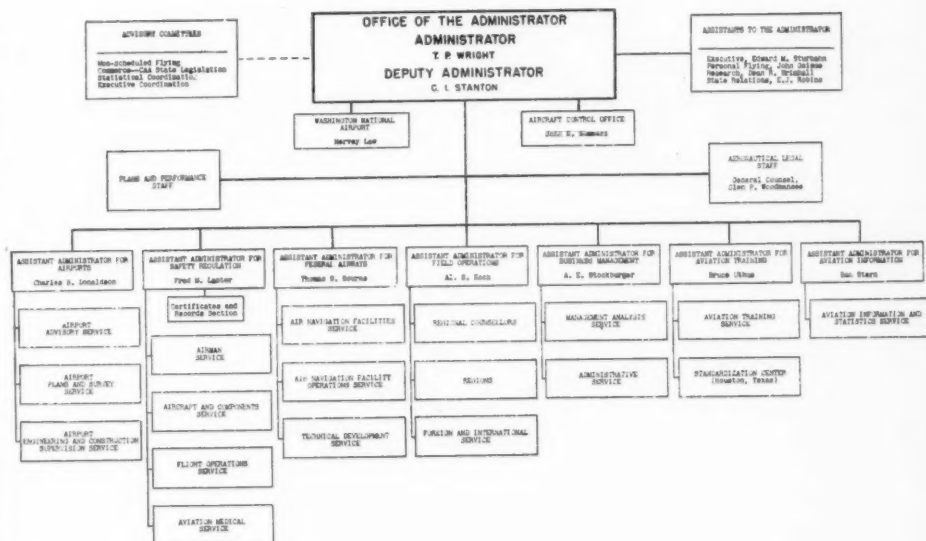
Thomas B. Bourne, Director of Federal Airways, now is Assistant Administrator for Federal Airways, directing the operation of three services: Air Navigation Facilities, Air Navigation Facility Operations, and Technical Development.

Fred M. Lanter, Director, Safety Regulation, now is Assistant Administrator for Safety Regulation, with four services to direct: Airman, Aircraft and Components, Flight Operations, and Aviation Medical Service. A Certificate and Records Section is also part of Safety Regulation.

Charles B. Donaldson, Director of Airports Service, now becomes Assistant Administrator for Airports, directing three services, Airport Advisory, Airport Plans and Survey, and Airport Engineering and Construction Supervising.

New Post Established—A new position is that of Assistant Administrator for Field Operations, through whom the activities of the nine CAA

DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION ORGANIZATION CHART



regions will be coordinated from Washington. Al S. Koch now Assistant Administrator for Foreign Operations, will be Assistant Administrator in charge of this activity, operating with regional counsellors, the nine regional administrators, and directing the activity of a Foreign and International Service.

Ben Stern, Director of Information and Statistics, now is Assistant Administrator for Aviation Information, directing Current Information, Statistics and Visual Information Services.

A. E. Stockburger, the Executive Officer becomes Assistant Administrator for Business Management, directing the Management Analysis and Administrative Services.

Bruce Uthus, Manpower and Training Officer, now is Assistant Administrator for Aviation Training, Supervising the Aviation Training Service. He also is in charge of the Standardization Center at Houston.

Regions Affected—The reorganization extends into the nine regions into which the CAA is divided. Regional Managers become Regional Administrators. They and their headquarters are: Oren P. Harwood, First Region, New York; William M. Robertson, Second Region, Atlanta, Ga.; H. R. Neely, Third Region, Chicago; L. C. Elliott, Fourth Region, Fort Worth, Texas; William H. Kline, Fifth Region, Kansas City, Mo.; Howard A. Hook, Sixth Region, Santa Monica, Calif.; Paul Morris, Seventh Region, Seattle, Washington; Marshall C. Hoppin, Eighth Region, Anchorage, Alaska; and John M. Beardslee, Ninth Region, Honolulu, T. H. There will be an Assistant Regional Administrator in each region.

Four special assistants will serve each Administrator. Their duties will involve Personal Flying Development, Aviation Medical Service, Legal Matters and Information and Statistics.

Eight branches will operate under each Regional Administrator's direction. They are Air Navigation Facilities, Plant and Structures; Air Navigation Facilities, Communications; Air Navigation Facilities, Operations; Airports; Business Management; Airman; Aircraft and Components and Flight Operations.

These functions of branches are broken down into more specific tasks which are assigned to divisions, each with a chief in charge.

There are also district offices in most of the regions, so located as to be convenient for the specific work necessary in that locality.

Army Cargo Carriers Are Given CAA Tests For Civil Flying Duty

Military planes, exclusive of fighters, but including some of the heaviest cargo carriers are being tested for Civil Aeronautics Administration certification at Bush Field, Augusta, Ga., preparatory to going into service in civil aviation.

The planes currently under type tests are mostly trainers and utility cargo planes. Among the exceptions is a Douglas C-54E in which a new engine is being installed and it will be examined by CAA flight engineers to determine whether it conforms to the Administration's standards of airworthiness.

The Douglas Co. designed this plane to meet CAA requirements, but early in the war the Army took it over as a cargo plane and it was built thereafter to military requirements. Several different models have been built, and each will be examined to determine its suitability for commercial use.

System Works Smoothly—The system inaugurated at the Augusta base in which the CAA and the Defense Plant Corporation cooperate in "demilitarizing" planes and starting them off on their postwar commercial careers, is now working smoothly. CAA inspectors from the Aircraft and Components Service are concerned with the planes just as if they were used airplanes being offered for sale by private individuals, or as new planes coming out of factories.

The requirements as to stability, climbing and other performance characteristics are the chief concern of the inspectors.

One plane of each type is tested. The test reveals what changes or additions must be made so the type will conform to CAA commercial requirements.

Domestic Air Carrier Statistics

Operations for April 1945

Prepared from official reports, submitted by the air carriers listed, to the Civil Aeronautics Administration and the Civil Aeronautics Board

Operator and routes	Revenue miles flown	Revenue passengers carried ¹	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (per cent)
All American Aviation, Inc., Pittsburgh-Huntington, Jamestown, Williamsport, Harrisburg, Washington.....	Total	121,641	0	0	17,439	2,883,301	0
American Airlines, Inc.,.....	Total	3,727,485	97,026	59,521,042	2,736,944	1,376,637,370	89.81
Dallas-Los Angeles.....	1,185,980	22,117	20,413,939	361,509	354,186,865	21,683,868	94.14
New York-Chicago.....	572,998	22,607	8,513,707	882,393	398,086,791	9,512,535	89.50
Boston-New York.....	237,710	23,787	4,122,669	437,994	66,452,143	4,739,275	86.62
Cleveland-Nashville.....	94,435	6,699	1,647,261	150,955	37,801,729	1,912,057	86.15
New York-Fort Worth.....	1,049,983	27,260	16,049,004	483,819	317,440,890	17,908,033	89.62
Washington-Chicago.....	160,103	6,491	2,543,563	181,658	57,707,621	2,847,556	89.32
Chicago-Fort Worth.....	229,055	7,826	3,628,897	145,325	80,258,994	4,277,120	84.84
Buffalo-Toronto.....	4,104	877	66,652	3,880	295,564	83,524	79.80
El Paso or Fort Worth-Mexico City.....	193,117	3,055	2,535,350	89,402	64,406,773	3,289,608	77.07
Braniff Airways, Inc.,.....	Total	603,514	25,049	10,668,403	174,084	87,394,505	12,090,496
Chicago-Dallas.....	335,176	12,389	6,026,211	123,141	74,603,452	6,593,341	91.40
Denver-Brownsville, Amarillo-Oklahoma City.....	234,470	12,470	4,119,878	43,977	11,733,040	4,817,331	85.52
Houston-Nuevo Laredo.....	33,868	3,059	522,314	6,966	1,058,013	679,824	76.83
Chicago & Southern Air Lines, Inc.,.....	Total	350,462	12,578	5,699,550	132,726	57,268,125	7,301,107
Chicago-New Orleans.....	292,035	11,176	4,682,114	116,434	51,432,685	6,075,400	77.07
Memphis-Houston.....	58,367	2,900	1,017,436	16,292	5,835,440	1,225,707	83.01
Continental Air Lines, Inc.,.....	Total	249,061	7,625	3,011,373	33,595	14,229,440	3,946,349
Denver-El Paso-San Antonio.....	154,617	4,916	1,696,075	11,235	3,675,729	2,084,217	81.38
Denver-Tulsa.....	32,008	1,820	502,650	4,822	754,357	661,607	75.97
Denver-Kansas City.....	62,436	1,573	812,648	17,538	9,799,354	1,200,525	67.69
Delta Air Corporation.....	Total	449,981	20,632	8,079,073	90,162	33,754,843	9,395,694
Charleston or Savannah-Fort Worth.....	382,908	17,016	6,865,528	57,261	22,960,853	7,998,438	85.84
Atlanta-Cincinnati.....	67,073	3,793	1,213,545	32,901	10,793,990	1,397,256	86.85
Eastern Air Lines, Inc.,.....	Total	2,057,283	68,093	35,584,587	673,678	411,428,436	40,797,013
Boston-San Antonio or Brownsville.....	674,952	22,630	11,671,847	187,057	125,599,934	13,889,078	84.04
Boston-Miami.....	806,616	26,590	13,148,789	252,519	182,943,628	15,118,952	86.97
Chicago-Jacksonville.....	326,549	15,314	6,426,025	167,557	68,612,515	6,736,187	95.40
Atlanta-Miami.....	151,544	6,545	2,752,997	23,956	14,228,221	3,135,018	87.81
Washington-St. Louis.....	97,622	4,321	1,584,929	42,580	20,074,138	1,917,778	82.64
Inland Air Lines, Inc.,.....	Total	151,083	4,522	1,483,542	8,464	2,124,157	2,057,268
Denver-Great Falls.....	119,026	4,128	1,299,160	8,299	2,090,131	1,780,501	72.97
Cheyenne-Huron.....	32,057	749	184,382	165	34,026	276,767	66.62
Mid-Continent Airlines Inc.,.....	Total	228,507	10,387	2,800,230	39,281	10,795,386	3,796,678
Minneapolis-Tulsa.....	129,954	6,492	1,664,754	31,892	8,451,240	2,209,571	75.34
Minneapolis-Des Moines, St. Louis or Kansas City.....	98,553	4,037	1,135,476	7,389	2,344,146	1,587,107	71.54
National Airlines, Inc.,.....	Total	480,905	12,077	5,884,487	48,555	27,507,941	6,438,167
New York-Key West via Miami.....	326,019	8,343	3,960,381	26,828	19,103,987	4,359,012	90.86
Jacksonville-New Orleans.....	154,886	5,147	1,924,106	21,727	8,403,954	2,079,155	92.54
Northeast Airlines, Inc.,.....	Total	91,027	6,599	1,363,915	14,858	2,497,626	2,088,687
Boston-Presque Isle and Moncton.....	70,531	5,230	1,089,565	13,299	2,256,613	1,626,654	66.98
Boston-Montreal.....	20,496	1,374	274,350	1,559	241,013	462,033	59.38
Northwest Airlines, Inc.,.....	Total	836,756	22,820	14,550,209	210,199	111,238,845	16,784,836
Chicago-Twin Cities-Seattle; Fargo-Winnipeg.....	820,844	22,820	14,550,209	209,987	111,208,317	16,784,836	86.69
Minneapolis-Duluth.....	6,912	0	0	212	30,528	0	—
Pennsylvania-Central Airlines Corporation.....	Total	823,513	55,837	13,566,833	713,701	156,976,235	16,984,242
Norfolk-Detroit.....	480,921	38,010	8,302,604	442,617	94,854,585	9,896,994	83.89
Detroit-Milwaukee or Chicago.....	224,070	18,415	3,714,234	211,696	43,547,839	4,660,091	79.70
Pittsburgh-Buffalo.....	23,792	1,586	311,522	13,642	2,393,458	492,895	63.20
Pittsburgh-Birmingham.....	75,483	3,229	1,047,306	38,003	15,095,776	1,536,844	68.15
Washington-Buffalo.....	19,247	808	191,167	7,743	1,084,577	397,418	48.10
Transcontinental & Western Air, Inc.,.....	Total	2,480,347	42,202	40,761,132	1,664,885	910,626,681	44,684,871
New York-Los Angeles.....	1,663,799	34,280	28,245,846	928,373	613,712,856	30,522,556	92.54
Dayton-Chicago.....	54,433	3,463	820,604	107,945	25,089,348	1,011,155	81.16
Winslow-San Francisco.....	174,477	7,800	3,100,372	49,500	20,648,720	3,372,438	91.93
Kansas City-Pittsburgh via Chicago.....	413,431	10,900	5,766,338	408,907	209,842,926	6,333,879	91.04
St. Louis-Detroit via Cincinnati and Dayton.....	79,198	5,229	1,200,072	104,973	18,786,186	1,615,259	78.01
Washington-Dayton via Columbus.....	93,908	4,475	1,563,733	64,548	22,196,337	1,807,389	86.52
Pittsburgh-Boston.....	1,101	9	4,167	639	350,308	22,195	18.77
United Air Lines, Inc.,.....	Total	2,925,767	48,914	43,269,166	1,042,339	871,175,855	45,583,333
New York-San Francisco.....	2,171,762	30,439	28,805,340	842,681	778,005,964	30,322,517	95.00
Salt Lake City-Seattle.....	143,870	4,810	2,826,092	39,725	26,928,704	3,192,406	88.53
Seattle-San Diego.....	529,648	24,928	10,115,157	141,230	60,495,937	10,427,295	97.01
Seattle-Vancouver.....	13,490	2,003	266,505	6,055	742,210	283,391	94.04
Washington-Toledo.....	66,997	1,747	1,256,072	12,648	5,003,040	1,357,724	92.51
Western Air Lines, Inc.,.....	Total	387,404	15,882	6,892,966	115,468	54,704,741	7,935,776
San Diego-Salt Lake City.....	201,153	7,175	3,660,578	95,464	47,809,286	4,152,849	88.15
Salt Lake City-Great Falls.....	59,885	2,319	849,653	2,856	1,279,973	1,234,541	68.82
Great Falls-Lethbridge.....	9,240	397	84,093	230	32,542	188,919	44.51
Los Angeles-San Francisco.....	117,126	6,527	2,298,642	16,918	5,582,940	2,359,467	97.42
Total.....	15,964,676	450,243	253,136,508	7,716,378	4,131,243,487	286,158,093	88.46
Colonial Airlines, Inc., New York-Montreal.....	Total	111,446	5,888	1,833,556	17,190	5,139,907	2,334,696
Hawaiian Airlines, Ltd., Honolulu-Hilo and Port Allen.....	Total	82,323	10,051	1,426,711	589,416	89,337,119	1,505,712
Grand Total.....	16,158,445	466,182	256,396,775	8,322,984	4,224,720,513	289,998,501	88.41

¹The total passengers carried for each airline is an unduplicated figure.

Operations for first four months of 1945 compared with same period of 1944

Operator	Revenue miles flown January-April		Revenue passengers carried (unduplicated) January-April		Revenue passenger miles flown January-April	
	1945	1944	1945	1944	1945	1944
All American Aviation, Inc.	433,775	340,172	0	0	0	0
American Airlines, Inc.	13,834,029	9,139,748	347,117	237,295	216,990,636	142,569,828
Braniff Airways, Inc.	2,271,745	1,390,427	91,035	54,537	38,516,391	23,055,975
Chicago & Southern Air Lines, Inc.	1,340,792	699,085	44,365	25,344	20,185,741	11,473,346
Continental Air Lines, Inc.	1,003,904	549,797	27,939	15,125	11,236,142	4,923,750
Delta Air Corporation	1,645,042	930,387	71,856	43,032	28,558,587	17,223,769
Eastern Air Lines, Inc.	7,786,909	4,723,883	240,268	124,349	129,907,948	72,925,009
Inland Air Lines, Inc.	549,958	254,631	17,552	3,744	5,694,277	1,235,408
Mid-Continent Airlines, Inc.	868,221	664,955	33,118	19,201	8,864,315	5,539,346
National Airlines, Inc.	1,717,560	910,552	44,500	33,185	20,717,898	10,801,971
Northeast Airlines, Inc.	397,065	297,538	23,487	12,752	4,880,520	3,084,793
Northwest Airlines, Inc.	3,140,025	1,785,321	78,907	38,405	51,302,586	26,168,460
Pennsylvania-Central Airlines Corporation	2,837,896	1,080,773	188,399	79,800	42,640,092	17,855,215
Transcontinental & Western Air, Inc.	8,750,840	5,520,253	140,010	96,459	131,469,138	80,543,991
United Air Lines, Inc.	11,274,788	8,187,440	179,721	178,419	157,284,939	123,958,907
Western Air Lines, Inc.	1,518,108	783,269	58,169	25,662	25,758,286	12,830,947
Total	59,370,687	37,258,231	1,586,443	987,309	894,007,496	554,190,712
Index (1944 = 100)	159.35	100.00	160.68	100.00	161.32	100.00
Colonial Airlines, Inc.	430,558	227,460	20,123	12,296	6,299,421	3,786,240
Hawaiian Airlines, Ltd.	330,755	285,987	40,574	33,094	5,787,183	4,730,196
Grand Total	60,132,000	37,771,678	1,647,140	1,032,699	906,094,100	562,707,138
Index (1944 = 100)	159.20	100.00	159.50	100.00	161.02	100.00

Operator	Express carried (pounds) January-April		Express pound-miles flown January-April		Passenger seat-miles flown January-April		Revenue passenger load factor (per cent) January-April	
	1945	1944	1945	1944	1945	1944	1945	1944
All American Aviation, Inc.	48,601	33,451	8,176,902	4,998,927	0	0	—	—
American Airlines, Inc.	10,312,835	6,304,246	4,960,358,113	2,968,461,797	246,632,004	162,609,807	87.88	87.98
Braniff Airways, Inc.	717,275	329,126	348,097,712	151,970,611	45,069,880	25,180,345	85.46	91.56
Chicago & Southern Air Lines, Inc.	578,928	314,634	240,653,496	125,910,184	27,777,184	14,017,226	72.67	81.85
Continental Air Lines, Inc.	152,488	49,059	70,796,819	21,989,722	14,899,326	5,961,287	75.41	82.60
Delta Air Corporation	414,959	291,678	160,171,336	112,529,143	34,043,198	19,080,311	83.89	90.27
Eastern Air Lines, Inc.	2,857,068	1,513,366	1,631,478,214	991,971,889	150,240,619	84,270,696	86.47	86.54
Inland Air Lines, Inc.	31,050	6,594	7,946,631	1,479,601	8,627,101	1,822,955	66.00	67.77
Mid-Continent Airlines, Inc.	140,377	66,937	40,889,449	17,394,274	8,145,877	8,134,459	62.66	68.10
National Airlines, Inc.	173,370	143,227	84,372,073	48,688,137	22,691,596	12,422,281	91.30	86.96
Northeast Airlines, Inc.	64,494	37,062	12,274,423	7,197,504	8,822,298	6,233,264	55.32	49.49
Northwest Airlines, Inc.	959,833	634,423	529,629,296	332,716,614	61,266,530	32,179,145	83.74	81.32
Pennsylvania-Central Airlines Corporation	2,760,625	1,312,099	589,743,063	239,772,408	57,765,906	22,472,845	79.45	79.45
Transcontinental & Western Air, Inc.	6,310,031	3,495,710	3,354,552,840	1,769,228,718	149,715,302	91,539,211	87.81	87.99
United Air Lines, Inc.	4,054,590	3,266,592	3,269,731,868	2,415,583,039	166,765,631	130,156,910	94.31	95.24
Western Air Lines, Inc.	420,254	297,538	198,995,604	159,103,105	30,177,198	15,526,546	85.36	82.64
Total	30,002,778	18,095,742	15,507,867,839	9,369,195,673	1,038,639,650	631,607,288	86.07	87.74
Index (1944 = 100)	165.80	100.00	165.52	100.00	164.44	100.00	98.10	100.00
Colonial Airlines, Inc.	68,754	57,728	20,682,625	17,626,932	9,035,550	4,776,676	69.72	79.27
Hawaiian Airlines, Ltd.	2,214,571	2,146,117	340,926,759	339,621,103	6,112,272	5,058,072	94.68	93.51
Grand Total	32,286,103	20,299,587	15,869,477,223	9,726,443,708	1,053,787,472	641,442,036	85.98	87.73
Index (1944 = 100)	159.05	100.00	163.16	100.00	164.28	100.00	98.01	100.00

	January	February	March	April	Total
Passengers carried (unduplicated) total revenue and non-revenue ¹					
16 domestic airlines	364,641	343,203	452,744	458,924	1,619,512
Total airlines	379,714	356,838	469,055	474,971	1,680,578
Passenger miles flown (total revenue and non-revenue)					
16 domestic airlines	209,239,114	190,102,158	251,103,217	256,823,489	907,267,978
Total airlines	212,143,608	192,818,644	254,373,710	260,114,065	919,450,027

¹Preliminary. Due to the delay in reporting by some companies, these figures are subject to revision in subsequent publications.

Hall L. Hibbard, Lockheed Engineer, Predicts Family Jet-Copter in Decade

Propulsion of aircraft by jet and rocket has been perfected in this war to such a destructive stage that they could wreck civilization if the world permits another war, Hall L. Hibbard, chief engineer of Lockheed Aircraft Corporation, told a University of California audience recently.

During the past two years Hibbard has directed the design and development of the Lockheed P-80 Shooting Star, rated as the fastest plane in the skies.

War's Most Terrible Tool—"We must never have another war," he warned, "because in the next war there will be no long period of semi-hostility when forces can be assembled. The aggressor's aim will be total destruction of his victim in the first 24 hours of hostilities."

But as an instrument of peace, Hibbard pictured this newest aviation development as the entrance into the final phase of man's effort to propel himself through space. He forecast that all new planes built eight to ten years from now would

use some form of jet power and pointed to the jet engine developed by General Electric for the Shooting Star as evidence of the progress of that form of propulsion.

Hibbard described the jet-driven family helicopter of ten years from now as the "safest, simplest, pleasant, most convenient form of travel ever devised."

Predicts Jet Helicopters—He predicted that jet helicopters would be on the market at competitive prices within a decade and that families today owning automobiles would want such helicopters. The helicopter blades would be driven by jets streaming through the rotor tips so that they would resemble a lawn sprinkler spinning upside down.

Discussing jet and rocket propulsion, Hibbard said that basic principles involved are understood and have been worked out. He described the infamous German V-2 rocket bomb as an example of the successful application of pure rocket pro-

pulsion. The rocket engine used on this bomb could be modified to drive a fighter plane or even a super-transport designed to fly at unlimited speeds above the earth's atmosphere. Speeds up to 100,000 miles an hour are not impossible under these conditions, Hibbard said, and if they become economically feasible they will be achieved.

Describes Forms of Jet Propulsion—Hibbard described in detail the three basic forms of jet propulsion. They are pure rocket propulsion, which will power the high-altitude supersonic planes of the future, jet propulsion as developed by General Electric for the Lockheed P-80 Shooting Star, and jet turbine-driven propeller combinations suitable for airplanes traveling at speeds below 500 miles an hour in the earth's atmosphere.

Jet engines, Hibbard said, are able to use less expensive fuels, such as diesel oil or kerosene, and these engines can be made at lower weight than the conventional reciprocating engine.

Washington Airport Crash—The Civil Aeronautics Board on May 7, 1945, concluded its three day hearing on the accident, which occurred at Washington National Airport on April 27, 1945, involving a Lockheed Lodestar plane operated by Page Airways, of Rochester, N. Y. Six passengers died as the result of injuries, and all other passengers and both pilot and co-pilot were hospitalized. The inquiry was conducted by William K. Andrews, Chief, Accident Investigation Section of the Board's Safety Bureau, who heard testimony of witnesses, Page Airways personnel, and employees of the Civil Aeronautics Board and Civil Aeronautics Administration, concerning the circumstances leading up to the accident, and the results of investigations after the crash.

This particular flight of Page Airways, a non-scheduled operator, was northbound from Miami to Rochester, and had stopped at Washington National Airport to discharge passengers, and for refueling. The accident occurred on the take-off. The plane slid into the drainage ditch at the edge of the airport, and burned, when the pilot attempted to land after the plane had left the ground at the take-off.

The Civil Aeronautics Board will issue its report after further research and investigation into the possible causes of the accident.

Crashes in Burning Plane—Pilot Thomas Hardin Saffold, Mission, Tex., suffered serious burns and his aircraft was destroyed when he crash-landed his burning airplane in a plowed field near Mission. The fire apparently was caused by gasoline leakage in a fuel line connection in the engine compartment.

Saffold held a commercial pilot certificate with single-engine land, 0-270 h.p. and flight instructor ratings. The aircraft involved had been equipped for crop dusting.

Saffold had completed the dusting of a vegetable field near Mission.

Broken Fuel Line—Another accident involving fire caused by a broken fuel line resulted in fatal injuries to Pilot Clay Stewart Hampshire, of Chicago, Ill., and serious injuries to Jerry Morris Shade, his student, during a crash-landing of his burning plane on the outskirts of Chicago.

Hampshire, a commercial pilot with single-engine land, 0-330 h.p. instrument and flight instructor ratings, had flown approximately 1,578 hours, of which 20 minutes were in the plane involved. Shade held a student pilot certificate, and had flown 12 hours and 50 minutes, of which 15 minutes constituted solo time.

Hampshire and Shade took off from an airport at Oaklawn, Ill., for a local instruction flight. While practicing turns 15 minutes later at an altitude of approximately 1,500 feet, the engine began to sputter and became very rough. The instructor took over the controls and, after selecting an emergency landing point, spiraled down to an altitude of from 200 to 300 feet. At this point, dense smoke and flames came through the dual control section between the two cockpits and the instructor side-slipped the plane into a cornfield. The plane bounced about 30 feet and nosed over. The instructor was pinned in the wreckage and died. Shade had unfastened his belt just before the crash, and was thrown clear of the plane as it nosed over.

Examination of the wreckage indicated that the engine was almost separated from its broken mount, and that the carburetor had broken off because of failure of its attachments. Inspection of the fuel line revealed a clean break in the copper tubing at the carburetor fuel inlet.

It is believed that this break occurred progressively during flight, resulting in a lean fuel mixture. The fuel leak, near the carburetor air intake, possibly caused engine sputtering and fire. The burned cowling seem to indicate that the fire originated at that point.

Shade, the owner of the plane, declared that he had purchased a replacement engine after buying the plane, but had retained the carburetor and

Swift Rescue Aid

CRASH equipment of the Civil Aeronautics Administration and the Army was actually on its way to the scene of the accident when the Page Airways plane went into the drainage ditch at the Washington National Airport and burst into flame.

Richard Stark, Chief Traffic Controller, and Joseph Bivari, his assistant, noticed the plane falter on the take-off and sounded the alarm. Before the ship rolled into the ditch, equipment was on its way, the drivers being directed by radio.

The first person to reach the burning plane was R. B. Maloy, Technical Assistant to the Director of Safety Regulation. He helped several passengers, their garments in flames, out of the ditch. He smothered the fire in one man's clothes by rolling him on the ground.

Airline and Army medical men were quickly dispatched and reached the plane in time to give some of them injured plasma transfusions before they were removed to hospitals.

copper tubing to the gascolator of the original engine. He added that when the replacement engine was installed, the copper tubing was annealed.

A fuel line installation of compression fittings with a hose in the center, such as appears to have been used in this aircraft, is subject to vibration and to the type of failure which occurred. This hazardous condition has been brought to the attention of the CAA Aircraft Engineering for corrective action.

Soft Runway—A pilot's attempt to take off from an unsuitable runway with a heavily loaded plane was held to be the probable cause of an accident which injured three persons and damaged an airplane near Wilmington, N. C.

Pilot John Andrew Colucci, of Wilmington, and John H. Miller Jr., a passenger, sustained minor injuries in the crash. Virgil D. Lockmay, Jr., another passenger, was seriously injured. Colucci held a private pilot's certificate with Class 1, land, 0-120 h.p. rating, and had flown a total of 399 solo hours prior to the accident. He had flown about 11 hours in the 90 days preceding the accident, and 30 hours in the aircraft involved.

The field from which take off was made was under construction, and presented a soft, rough surface. Nevertheless, the pilot made several solo take-offs and landings without incident before attempting to take off with his two passengers. He was unable to gain flying speed on his first attempt, and taxied back for another.

On his second attempt, he was able to lift the plane from the ground, but in attempting to clear 30-foot wires at the north end of the field, pulled up so sharply as to stall the plane. The pilot recognized the stall, closed the throttle and landed straight ahead, without attempting recovery. The plane struck the ground in a nearly level attitude and crashed into a pile of concrete building blocks.

Examination revealed no failure of any part of the airplane prior to impact. Investigation further revealed that small trees and brush had been removed from the 2,000-foot runway, but that the runway still lacked grading.

It was held that the pilot's failure to make a successful take-off on the first attempt, should have been sufficient warning that it would be difficult to gain sufficient altitude to clear the obstructing wires on subsequent attempts.

Violent Maneuvers—Pilot Frederick Charles Weisbrod, of Camden, N. J., and passenger Clarence Newton Adams, of New Kingston, Pa., sustained fatal injuries when their plane was demolished following a steep power dive and power

spin near New Kingston. Loss of control was attributed to violently executed maneuvers, accompanied by probable wing failure.

Weisbrod held a commercial certificate with single-engine land, 0-355 h.p. and flight instructor rating, and had approximately 1406 hours of flying time. Adams held a commercial pilot certificate with a single-engine, 0-80 h.p. rating.

Both men were practicing acrobatics in a dual-control, parachute-equipped plane when the accident occurred. They were seen to execute a slow roll, followed immediately by a violently executed snap roll. Before recovery could be effected, according to witnesses, the plane entered a short, steep power dive, flattened out, and entered into a power spin at an altitude of about 2000 feet. The spin continued with power on until the plane crashed into a field at a steep angle.

Despite the absence of impact marks on the ground, the edge of the left wing was found to be collapsed, indicating possible failure in the air. This was supported by the condition of the fabric, revealing a certain amount of flapping.

Recent CAA and CAB Releases and Speeches

COPIES of releases made by the Civil Aeronautics Administration and the Civil Aeronautics Board are obtainable from the CAA Office of Aviation Information and the CAB Public Information Section, both in the Department of Commerce Building, Washington 25, D. C.

CAA

RELEASES

"Air Markers Can Make Private Flying Easy for All"

"CAA Endorses Plan for Downtown Airport"

"CAA Reorganization Announced by Wright"

"A Challenge—To Private Flying"
By John H. Geisse, Assistant to the Administrator of Civil Aeronautics for Personal Flying

"U. S. Civil Air Head Tells London Group of Airplane's Vast Peace Role"

Statements by:

Henry A. Wallace, Secretary of Commerce and William A. M. Burden, Assistant Secretary of Commerce, Before the Interstate and Foreign Commerce Committee, House of Representatives

ADDRESSES

"Aviation's Place in Civilization"
By Administrator T. P. Wright
33d Wilbur Wright Memorial Anniversary
Before Royal Aeronautical Society
London, England, May 31

CAB

RELEASES

Revision of Parts 20 and 60 of Civil Air Regulations and New Parts 43 and 49

ADDRESSES

"Aviation Takes Off"
Chairman L. Welch Pogue
Board of Civil Aeronautics
Delivers Address in Los Angeles
"Aviation Day" May 15, 1945

Civil Aviation Ready For The 'Takeoff', Says CAB Chairman Pogue

Aviation's developments and progress have been so large and so rapid that the entire picture is beyond the vision of anyone except a man whose imagination makes a bird's-eye view possible.

So L. Welch Pogue, chairman of the Civil Aeronautics Board, told an audience in Los Angeles, Calif., in an address during the observation of "Aviation Day."

"As evidence of the speed with which the airplane moved into national significance, the Chairman called attention to the fact the railroad was more than 100 years in attaining its position in our economy; the automobile reached its present popularity in about 40 years and the airplane has become a giant since Pearl Harbor. "Aviation is ready for the take-off."

A Matter of Free Enterprise—Aviation was born in this country in 1903 under a free enterprise competitive system where any individual who had an inventive idea, whether it seemed sound or crazy, had an excellent chance to try it out.

"During its brief life of slightly over 41 years, many a milepost on the remarkable road of aviation's progress has been set by unassuming private citizens.

These devoted enthusiasts have had an ally in a government which, generally speaking, has been truly air-minded. The contributions which it has made through its numerous departments and agencies reveals an attitude which will be needed in full maturity tomorrow.

Private Flying Progress—Private flying did well prior to the war. Nearly 84,000 private pilots and over 24,000 privately owned planes were registered on December 31, 1941. Many of these pilots were trained by the Civilian Pilot Training Program carried on by the Civil Aeronautics Administration.

Part Played By Labor—"Labor's position in this expansion is equally dramatic. In 1939 nearly 50,000 persons were employed in the aircraft industry. In December 1944 well over a million people were employed by prime contractors alone in the aircraft manufacturing industry. Approximately one-third of these were women. These employment figures reveal only a part of the labor contribution. So far as I know no one has accurately estimated the large number of supporting workers—those in the plants of subcontractors, in the raw material and semi-finished business, in the collateral tool and supply industry, and in the many industries necessary to support all of these workers. The sum total, we may be sure, is huge.

"Now let us look at the future. If I were figuratively to sum it all up in a sentence, I should say, 'Aviation is now ready to take off.' That means that we have gone through only the preliminaries to a great future. But the take-off is a very important part of the flight. The rest of the flight depends on it. There are problems on those runaways as well as promise.

"In a technological sense the future of aviation into which we are taking off is very promising. When the technological development accomplished during this war is made available for application to civil aviation, the resulting improvements in civilian flying will be tremendous.

CAR's Revised—"After 18 months of intensive effort by the Board's Safety Bureau, and after frequent conferences with the CAA staff, the Board recently adopted, to become effective on July 1, 1945, revised Parts 20 and 60 of the Civil Air Regulations and the new Parts 43 and 49. These new regulations give a much greater degree of freedom both to the certification of the pilots and to their flying activities. It imposes, of course, much

more responsibility upon the student, private and commercial pilots, and the flight instructor.

"I see aviation in the years to come as a major force in the political, economic, and social life of the nation and the world. These are the goals of the future as aviation takes off. These are the goals which we shall achieve."

Geisse Sees CAR Revision Private Flier's Big Chance

In discussing the revision of Civil Air Regulations, Parts 20, 43 and 60, pertaining to certification of pilots and rules of the air which go into effect July 1, 1945, John H. Geisse, Assistant to the Administrator of Civil Aeronautics for Personal Flying said "the non-scheduled flier and operator will get the ball."

"You have said," continues Mr. Geisse, "that if the ball were given to you, and you were permitted to call your plays, you could make a touchdown. If you play the game conservatively, you should be able to do so, and with few casualties, but, on your team there are going to be some who believe they can carry the ball without interference. If you let them do so, you will stand an excellent chance of losing the ball, and if you lose it, you will have no one to blame but yourselves. If you want to keep the ball, and make your touchdown, it is going to be up to you to see that no one carries the ball who is not competent to do so, and that interference is provided whenever needed.

"Do not for one moment believe that there was any unanimity of opinion as to your ability to take on the responsibility given to you under the revised regulations. There are many who believe that we will have an immediate and material increase in accidents when the new regulations go into effect. Their opinions cannot be lightly cast aside, as they are, for the most part, men of experience. They may be right. If time and you prove that they are, then regulation will come back with a vengeance, and private flying will have lost its chance to become a major factor in our lives. It cannot reach any such stature loaded down with regulation.

A major challenge goes to the manufacturers. What safety we have hitherto attained has been attained largely by strict regulations guarding against the hazards built into the airplane.

"A great responsibility will rest with the owners. Except in those few instances when airplanes are stolen, no accident can occur without the owner's authorization of the flight. It is his responsibility not only to keep his airplane airworthy, but to see that no one is permitted to fly it who is either incompetent or irresponsible. It never has been possible for the government to indicate by a pilot's rating that he is competent to fly particular airplanes, although attempts have been made in this direction by weight and power ratings. With the elimination of such ratings it should become more apparent to the owner that it is his responsibility to use discretion in lending or renting his airplane. Renting the airplane to incompetent or irresponsible pilots must in the long run be an unprofitable business that the operator can well afford to do without.

"Perhaps a still greater responsibility will rest with the rated instructors. It is upon them that we must rely to see that each pilot is not only properly trained, but is also properly apprised of the hazards of flying and his limitations. It will be his sole responsibility to see that a student is not soloed until he is fully prepared for solo flight.

"The airport manager must accept the responsibility of assuring that the operations from his field are properly conducted. This he should do in his own self-interest, as a bad accident record, or a return of strict regulation, or a combination of both, cannot help but have an adverse effect upon his welfare.

"Finally, private and commercial pilots must see to it that their safety record is as good or better than it was under stricter regulation if they want to retain the freedom of action now to be permitted them."

Named Executive Assistant



Major Edward M. Sturhahn

Appointment of Major Edward M. Sturhahn as his Executive Assistant is announced by T. P. Wright, Administrator of Civil Aeronautics.

Major Sturhahn, upon the request of Secretary Wallace, has been released from the Aircraft Scheduling Unit of the Army Air Force, to assume his new duties.

As president and general manager of Dixie Flying Service in 1929, Major Sturhahn was one of the pioneers in scheduled airline operation, inaugurating the first scheduled airline to carry passengers south out of Washington. The route extended to Greensboro, N. C., by way of Charlottesville, Lynchburg and Danville, Va.

Dixie Flying Service also operated the Richmond, Charlottesville and Danville airports under Major Sturhahn's direction; student instruction, airplane sales, maintenance, and other enterprises were the main functions of these fields. He became purchasing agent for Eastern Airlines at Atlanta, Ga., in 1933 and, for the past three years, has been recorder and assistant administrator of the Aircraft Scheduling Unit, first as a War Production Board employee, then as a major in the Army Air Force.

He is married, the father of a daughter 14, a son 11. He was born May 15, 1906 at Hartford, Conn., educated at Colby and the University of Virginia. He is an enthusiastic sportsman, and a former hockey player of considerable fame in New England.

One Day's Airborne War Freight

British newspapers report that in one day, March 24, the total load taken to Wesel by English and United States aircraft and gliders was almost 3,000 tons. Of this amount 3,090,000 pounds were carried in British ships and 2,724,000 in United States craft.

Report U. S. Airport Near Madrid

Reuters recently carried a dispatch from Madrid, Spain, saying the United States had concluded an agreement with Spain providing for the construction of an airfield at Barajas, near Madrid.

Airline Orders

Service

No. 3612 extends the effective period of the temporary permit held by Royal Dutch Airlines for 3 months from Apr. 30 in view of the need for temporary air transportation in the Caribbean area. (Apr. 23)

No. 3613 permits American Airlines to serve Peoria, Ill., on or about May 1, 1945, through the use of the Peoria Municipal Airport. (Apr. 25)

No. 3614 permits Chicago & Southern Air Lines to serve Peoria, Ill., on May 1, 1945 through the use of the Peoria Municipal Airport. (Apr. 26)

No. 3615 affirms order and opinion dated Nov. 5, 1943 which granted a temporary certificate to Essair, Inc., authorizing air transportation between Houston and Amarillo, via intermediate points Austin, San Angelo, Abilene, and Lubbock, Tex. (Apr. 19)

No. 3619 dismisses application of TWA for a certificate. (Apr. 28)

No. 3620 grants application of Pan American-Grace Airways for amendment of its certificate to permit scheduled operations between Lima and Iquitos, Peru. (Issued with an opinion March 30)

No. 3621 dismisses proceeding, instituted by order No. 3556, concerning the lawfulness of certain discounts stated in the tariffs designated in said order. M. F. Redfern, agent for and on behalf of the respondent air carriers named in the proceeding, cancelled the discounts under investigation. (Apr. 28)

No. 3622 extends the effective period of the foreign air carrier permit held by Expreso Aereo Inter-Americano, S.A. for 3 months from April 30, 1945, in view of the need for temporary air transportation in the Caribbean area. (Apr. 30)

No. 3623 permits Northwest Airlines to serve New York, N. Y., and Detroit, Mich., on May 1, 1945, through the use of La Guardia Field, and Detroit City Airport. (Apr. 30)

No. 3624 orders that TWA be notified that the national defense no longer requires delaying inauguration of service between Pittsburgh and Boston. (May 1)

No. 3625 permits TWA to inaugurate non-stop service on May 1, 1945 between Pittsburgh, Pa., and Boston, Mass., and between Pittsburgh and Albany. (Apr. 30)

No. 3626 permits TWA to serve Williamsport, Pa., Albany and Boston on May 1, 1945. (April 30)

No. 3627 rescinds order No. 1754 because suspension of service on the remaining segment of Eastern Air Line's route 40, between Nashville, Tenn. and Florence-Sheffield-Tusculuma, Ala., is no longer required. (Apr. 30)

No. 3630 dismisses application of Hawthorne Airways for a certificate upon their request. (Apr. 30)

No. 3631 consolidates various applications proposing additional air service in the general area of Michigan, Illinois, Indiana and Ohio and parts of adjacent states into one proceeding. (May 1)

No. 3632 amends last paragraph of order No. 1762 thereby authorizing UAL to suspend service temporarily on route 17 until further order of the Board. (May 1)

No. 3633 orders that UAL be notified that the national defense no longer requires delaying inauguration of service between Cleveland and Boston. (May 1)

No. 3634 orders that Penn-Central be notified that the national defense no longer requires delaying inauguration of service to and from New York, N. Y.-Newark, N. J. (May 1)

No. 3635 grants National Airlines permission to withdraw the brief filed in behalf of its application for authority to inaugurate non-stop service between Jacksonville and Miami. (May 2)

No. 3636 rescinds order No. 2692 which authorized Northern Cross, Inc., to temporarily suspend service in the Territory of Alaska. (May 2)

No. 3641 permits UAL to serve Hartford, Conn., and Boston, Mass., on May 1, 1945, through the use of Brainard Field and General Logan Airport. (May 1)

No. 3642 authorizes British Overseas Airways Corp. to increase the frequencies operated between Baltimore, Md., and Foynes, Eire, to four a week in each direction. (May 8)

No. 3655 denies request of Northeast Airlines for exemption from the provisions of section 239.1 of the Economic Regulations. (May 8)

No. 3658 grants the City of Sioux Falls, S. Dakota, permission to intervene in the North Central Case. (May 9)

No. 3659 dismisses applications of W. A. Hunter, Jr., Consolidated Bus Lines, Logan Williamson Bus Company and Lovett and Hutcheson. (May 10)

No. 3661 approves an agreement by and between Wien Alaska Airlines, Inc., and Pan American Airways, Inc., relating to charter of aircraft by Wien to Pan American, provided, however, that the approval granted shall not be construed as a determination by the Board that the making or the performance of the Agreement constitutes a discharge of Pan Am's duties under sec. 404(a) of the Act. (May 10)

No. 3662 approves interlocking relationships of Charles W. Perelle as Director of TWA and Vice President and Director of the Hughes Tool Co. (May 10)

No. 3663 approves interlocking relationships of Jack Frye as President and Director of TWA and Director of TACA Airways Agency, Inc. (May 10)

No. 3672 orders that the Cities of Charleston and Anderson, S. C.; Norfolk, Va.; Louisville and Owensboro, Ky.; Cincinnati, Ohio; Greensboro-High Point and Asheville, N. C.; Brunswick, Tifton and Albany, Ga.; Tupelo, Miss.; Memphis, Tenn.; Campbell County, Ky.; Pan

Atlantic Steamship Corp.; and the South Carolina Aeronautics Commission be granted permission to intervene in the Southeastern States Case. (May 11)

No. 3673 consolidates application of Southeastern Air Express, Inc., with the Southeastern States Case. (May 11)

No. 3674 rescinds order No. 1759 insofar as it authorizes temporary suspension of service by Penn-Central between Baltimore and Buffalo on route 34. (May 14)

No. 3675 approves an agreement by and between American Airlines and Penn-Central relating to sublease of hangar space by American to PCA at Chicago. (May 14)

No. 3676 dismisses application of Kansas Aviation Co., upon their request, for a certificate. (May 14)

No. 3677 permits Caribbean-Atlantic Airlines, Inc., to serve Mayaguez and Ponce, Puerto Rico, on May 15, 1945, through the use of the Mayaguez Airport and Losey Fld. (May 14)

No. 3679 dismisses applications of UAL for certificates upon their request. (May 14)

No. 3681 orders that Lineas Aereas Mexicanas be issued a temporary foreign air carrier permit so that the carrier may engage in foreign air transportation between Cananea, Mexico and Nogales, Ariz. (Issued with an opinion May 8)

No. 3682 orders that an investigation be instituted with respect to the activities of Page Airways, Inc., to determine whether in the conduct of such services it has failed to comply with any provision of sec. 401 of the Act or any requirement established pursuant thereto. (May 17)

No. 3683 permits Continental Air Lines, Inc. to conduct air transportation between Hobbs, N. Mex., and Tulsa, Okla., but denies its application in Docket 1126 in all other respects; denies application of American Airlines which requested that route 4 be amended to include Lubbock and Wichita Falls, Tex., as intermediate points. (Issued with an opinion—May 17)

No. 3685 denies application of American Airlines which requested exemption from the provisions of sec. 401(a) of the Act. (May 18)

No. 3686 orders that Chicago and Southern Air Lines, Inc., be notified that the national defense no longer requires delaying inauguration of service between the terminal points Houston, Tex. and Detroit, Mich.; provides that service to and from Paducah, Ky., Evansville, Indianapolis, Anderson-Muncie-New Castle, Marion and Fort Wayne, Ind., Toledo, Ohio and Detroit, Mich., shall not be inaugurated until the Board notifies Chicago and Southern that the national defense no longer requires a delay in the inauguration of such service. (May 18)

No. 3687 permits Chicago and Southern to serve Indianapolis, Ind., Toledo, Ohio, and Detroit, Mich., on May 20, 1945, through the use of the Indianapolis Municipal Airport, Toledo Municipal Airport, and Detroit City Airport. (May 18)

No. 3696 dismisses applications of Alaska Coastal Airlines for certificates. (May 22)

No. 3697 grants the Cities of Charlotte, N. C., and Mobile, Ala., permission to intervene in the proceeding known as the Southeastern States Case. (May 22)

No. 3698 orders that the application of Southland Airlines for a certificate be withdrawn from the Southeastern States Case proceeding and that action be deferred. (May 22)

No. 3699 dismisses applications of Aero Pickup Service Corp., All Virginias Air Feeder Lines, Blue Ridge Air Lines, Inc., Carolina Air Lines, Inc., McLondon and Blount Service Stages, Inc., Trans-Eastern Airways, and Union Airways from the proceeding known as the Southeastern States Case. (May 22)

No. 3700 consolidates application of Southern Airways, Inc., with the proceeding known as the Southeastern States Case. (May 22)

Airman Orders

Suspensions

No. 3617 suspends private certificate of Wilbert W. Schellpeffer for 30 days because he piloted an aircraft which was not certificated for flight by a valid aircraft airworthiness certificate and which did not bear an identification mark assigned by the Administrator. (Apr. 27)

No. 3618 suspends commercial certificate of Cloyd E. Lile for 90 days and revokes his flight instructor rating. Lile executed maneuvers at an altitude of less than 500 feet and in addition simulated forced landings over unfamiliar and unsuitable terrain, as a result of which the plane struck some suspended power lines and crashed. (Apr. 27)

No. 3644 suspends student certificate of Merritt L. Thomas for 90 days. Thomas operated an aircraft automatically over an open air assembly of persons and violated other provisions of the Civil Air Regulations. (May 8)

No. 3645 suspends commercial certificate of Albert A. White for 3 months because he "zoomed" the Municipal Airport at Carthage, Mo., at an altitude of approximately 10 feet while carrying a passenger for hire and violated other provisions of the Civil Air Regulations. (May 8)

No. 3646 suspends student certificate of John C. Sheldon for 4 months, and thereafter until he passes the written exam required for issuance of a private certificate. Sheldon carried a passenger and violated other provisions of the Civil Air Regulations. (May 8)

No. 3649 suspends student certificate of Marion L. Trent for 6 months because he carried his wife and small daughter as passengers in a 3-place aircraft and violated other provisions of the Civil Air Regulations. (May 8)

No. 3650 suspends commercial certificate of Paul L. Davidson for 30 days because he piloted an aircraft in the vicinity of McLaurin, Miss., although he had not passed a physical exam within the preceding 12 months. Davidson also violated other provisions of the Civil Air Regulations. (May 8)

No. 3651 orders Louis W. Babbs to show cause why his private certificate should not be suspended for 4 months. Babbs' student certificate was suspended for 4 months by order No. 3571 because he failed to circle the Lunken Airport, Cincinnati, Ohio, sufficiently to observe other traffic while coming in for a landing and in addition violated other provisions of the Civil Air Regulations. At the time this action was taken the Administrator was unaware that Babbs had been issued a private certificate. (May 8)

No. 3668 suspends commercial certificate of Ralph Ginson for 60 days. Ginson piloted an aircraft in the vicinity of Reno, Nev., at an altitude of less than 500 ft. (May 11)

No. 3669 suspends commercial certificate of Andrew W. Hland for 6 months because he gave flight instruction although he did not hold an instructor rating and violated other provisions of the Civil Air Regulations. (May 11)

No. 3670 suspends flight instructor rating of Raymond E. Edgerton until he passes the written exam required of applicants for original issuances of such a rating. Edgerton flew over the congested area of Yoakum, Tex., at an altitude of approximately 800 feet and violated other provisions of the Civil Air Regulations. (May 11)

No. 3688 suspends the commercial pilot certificate of William Otis Burt for 90 days for having flown aircraft in instrument weather when he was not the holder of a valid instrument rating, when he was not otherwise qualified for such operation and when aircraft involved were not certificated for such flight. Burt likewise flew at less than 1,000 feet over the congested area of Louisville, Ky., made instrument flights at less than 1,000 feet, entered the Cincinnati Airway Traffic Control Area near Louisville, Ky., during instrument weather without filing flight plan, and failed to land or alter his course for contact flight when he encountered instrument weather. (May 18)

No. 3692 suspends the student pilot certificate of George De Backere for 30 days for having piloted an aircraft at an altitude of less than 500 feet in the vicinity of Sherrard, Illinois. (May 22)

No. 3694 orders John Chester Sheldon to show cause, before May 8, 1945, why his private pilot certificate should not be suspended for a period of four months. (May 22)

Regulations

Amdt. 40-1.....Effective Apr. 20, 1945

Multieengine Aircraft Requirements for Operation over Water—§40.233 of the Civil Air Regulations is amended by striking the last sentence and inserting in lieu thereof the following:

The requirements of flotation devices and signal equipment do not apply where such operations consist only of landings, take-offs, or flights of short duration over water and the Administrator finds in each case that such equipment is unnecessary.

Amdt. 40-2.....Effective Apr. 20, 1945

Extending the Period for the Compliance of Airplanes Used in Scheduled Air Transportation to be Certificated in Accordance with the Transport Category Requirements of Part 44-§40.2(d) of the Civil Air Regulations is amended by striking the words "December 31, 1947" and inserting in lieu thereof the words "December 31, 1948."

Amdt. 61-3.....Effective Apr. 20, 1945

§61.3220 (a) of the Civil Air Regulations is amended to read as follows:

§61.3220 (a) Multieengine land aircraft operated over water, beyond gliding distance from shore without the aid of power, shall be completely equipped for overwater flying as specified in §40.233, unless the overwater operations are so limited in duration or otherwise that the Administrator finds such equipment unnecessary.

Reg. 293-A.....Effective Apr. 27, 1945

Issuance of air traffic control tower operator certificates limited to the control of aircraft at Airports operated by the United States military services.—Special Civil Air Regulation Number 293 is amended by striking the word "Navy" whenever it appears and inserting in lieu thereof the words "military services."

Reg. 335.....Effective May 1, 1945

Any first pilot listed in the Northeast Airlines, Inc., air carrier operating certificate on March 1, 1945, will be deemed to have met the route requirements of §40.261 (b) of the Civil Air Regulations for the piloting of aircraft in scheduled air transportation on the approved route between Boston, Mass., and New York, N. Y., when he has completed 2 one-way trips, one of which is made at night, over the route and he has demonstrated to a representative of the Administrator that he is thoroughly familiar with the holding and approach procedures for LaGuardia and alternate airports in the New York area.

This regulation shall terminate August 1, 1945.

Monitors

(From page 61)

course alignment beyond 3° and a failure of the link circuit relay. The latter type of failure results in a steady monotone similar to the on-course signal with identification being heard in all directions.

When the monitor unit recognizes either of these conditions an impulse is passed on to a third unit which interrupts the range signal and keys the Morse Code letters UUU. When the pilot of an aircraft flying exactly on-course receives the warning transmission, the monotone of the on-course signal will be interrupted and the letters UUU heard distinctly. However, the further an aircraft is off-course the more the UUU signal will rise and fall in strength, dependent upon the relative A and N signal strength. Therefore, at points in the quadrants where the A or the N alone may be heard, the mixture of the UUU letters and the quadrant letter will be jumbled due to their simultaneous keying on the same circuit. This occurs only when the UUU is keyed and the normal distinct quadrant signal will be heard during the remaining portions of the cycle.

How Monitor Works—So that the radio range monitor function may be more completely understood, it should be remembered that the standard keying cycle of all CAA radio ranges is 37½ seconds in length and comprises 12 N's and A's, followed by the station identification keyed twice, first in the N quadrant and then in the A quadrant. The total identification signal time is 7.5 seconds, leaving 30 seconds for the N—A period. (This interval is 34 seconds with the overall being about 42 seconds at a few range stations throughout the country due to commercial power frequency deviations.)

The monitor recognizes an off-course condition exceeding 3° by virtue of the slight difference in the amplitude of the N and A signals. In addition, however, sudden fluctuations in the range signal, caused by something other than an off-course condition, might occasionally result in the warning signal being transmitted. For example, the voltage of the commercial power supply at some range sites is known to include sudden drops and surges at times. These might result in a single warning signal being transmitted.

The significance of a UUU warning signal may be established by listening for subsequent UUU warning signals. If they occur in each 37½-second keying cycle, an improper condition of radio range operation is indicated. If no further UUU warning signals are heard, it may be assumed that the single UUU was caused by some transient condition as stated above. An exception to this will be found, however, when the range keyer stops. This causes a continuous monotone to be transmitted in all directions and there is no interruption for the transmission of station identification signals. In such cases a UUU warning is transmitted once only immediately after the keyer stops. Since the UUU warning is not transmitted thereafter, it is imperative that the pilot recognize the complete absence of identification signals as an indication of keyer failure even though he does not hear a periodic UUU warning.

Shift Warning—A course-shift warning initiated when the course shifts approximately 3° will cause the UUU signal to appear near the end of the 30-second N—A cycle. As the shift becomes greater, the UUU signal will advance in relative time within the N—A cycle, until it is within 7 to 10 seconds of the preceding identification interval. This latter will indicate a course shift of approximately 5½° or more.

The automatic radio range monitoring equipment is necessarily rather involved. Provisions have been made through the remote control equipment so that the CAA communicator will be able to test it periodically and determine that it is functioning properly. His tests will not however be apparent to anyone listening to the range signal.

Notices to Airmen will be issued as installations of these radio range monitors are made.

AIR REGULATIONS . . . As of June 1, 1945

TITLE	PART NO.	PRICE		DATE LATEST EDITION		NO. AMENDMENTS ISSUED	
		Part	Manual	Part	Manual	Part	Manual
Aircraft							
Airworthiness Certificates	01	\$0.05	None	10/15/42	None	1 ²	
Type and Production Certificates	02	.10	\$0.10	3/1/41	3/15/45		
Airplane Airworthiness	04	.15	\$0.45	11/1/43	7/1/44	3	
Engine Airworthiness	13	.05	None	8/1/41	None		
Propeller Airworthiness	14	.05	(1)	7/15/42	12/1/38		
Equipment Airworthiness	15	Free	\$0.10	4/15/44	7/1/38		
Radio Equipment Airworthiness	16	0.05	Free	2/13/41	2/13/41		1
Maintenance, Repair, and Alteration of Aircraft, Engines, Propellers, Instruments	18	.05	0.50	9/1/42	6/1/43		
Airmen							
Pilot certificates	20	.10	None	2/15/44	None	6	
Airline Pilot Rating	21	.05	None	10/1/42	None	3	
Lighter-than-air Pilot Certificates	22	.05	None	10/15/42	None		
Mechanic Certificates	24	.05	None	7/1/43	None		
Parachute Technician Certificates	25	.05	None	12/15/43	None		
Traffic Control Tower Operator Certificates	26	.05	None	2/1/44	None		
Aircraft Dispatcher Certificates	27	.05	None	10/1/43	None		
Physical Standards for Airmen	29	.05	None	6/1/42	None	3	
Air Carriers							
Air Carrier Operating Certification	40	.10	None	10/10/44	None	2	
Air Agencies							
Flying School Rating	50	.05	Free	11/1/40	12/40	3	2
Ground Instructor Rating	51	.05	None	12/15/43	None		
Repair Station Rating	52	.05	Free	10/1/42	2/41		
Mechanic School Rating	53	.05	(1)	8/1/42	5/40		
Parachute Loft Certificates and Ratings	54	.05	None	1/21/43	None		
Air Navigation							
Air Traffic Rules	60	.10	0.15	8/15/44	8/1/43	3	
Scheduled Air Carrier Rules	61	.10	None	2/1/44	None	3	
Foreign Air Carrier Regulations	66	.05	None	3/1/42	None		
Miscellaneous							
Definitions	98	.05	None	10/15/42	None		
Regulations of the Administrator							
Aircraft Registration Certificates	501	Free	None	3/31/43	None		
Recordation of Aircraft Ownership	503	Free	None	3/31/43	None		
Seizure of Aircraft	531	Free	None	12/8/41	None		
Regulations Governing the Distribution and Use of Aviation Gasoline	534	Free	None	9/16/44	None		

¹ Out of stock. ² Special regulation No. 223.

Note: Those parts and manuals for which there is a price are obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances must be by cash or by money order, payable to the Superintendent.

Wallace

(From page 62)

ized and expanded in accordance with a coherent national plan, civil aviation cannot grow as rapidly and as soundly as our national interest demands.

Cites Policy on Federal Aid—"In expecting that the Federal government will take a leading role in the development of our national airport system we are merely following a long-established American policy in the transportation field. For over a hundred years the national government has aided in the improvement of rivers and harbors, Federal expenditures for this purpose now totaling some three billion dollars. Congress recently approved an authorization of \$382 millions for such work in the postwar period.

"I am not an advocate of the dangerous thesis that one great Federal expenditure automatically justifies another but I believe it can be shown that a well-planned Federal-aid program will prove an even sounder investment than our other highly successful Federal investments in the field of transportation.

Gives Statistics—"We are dealing with a means of transport which will over the next ten years affect the mass of the American people. CAB reports (though the statistics involve duplication) showed that 4,000,000 Americans traveled by air within the United States in 1941. If current growth estimates are met, many tens of millions will ride the airlines in 1955. Hundreds of thousands will travel by personal plane. That other millions will visit airports is suggested by the fact that over 1,000,000 persons paid admission to New

York's LaGuardia field sight-seeing ramp in 1943. And although it will serve the mass of our people, aviation will compete with existing forms of transportation to a far lesser degree than is generally supposed. Due to its high ton-mile operating cost the airplane will not in the foreseeable future be able to compete with railroads and trucks for the freight traffic which provides the vast majority of their revenue and profits.

"It is well to remember that the revenues of an airport do not come solely from the airplanes that land and take off from the runways. Each airport is a minor industrial organization in itself. In the postwar period the oil companies will provide attractive and efficient facilities for the sale of gasoline and oil—the aeronautical equivalent of our vast system of filling stations.

Sources of Airport Revenue—"Many airports, even small ones, will have training centers where flight and ground schools will teach our youth how to fly. They will provide repair centers for aircraft and engines comparable to the garages which service our cars. There will be aircraft salesrooms, stores, shops, and restaurants; and even small hotels or tourist camps and recreation facilities. Other sources of revenue at the larger airports are provided by spectator ramps and dining rooms, drive-yourself services, and a dozen other activities.

"There is, I believe an unquestioned need for the 3,000 airports which we propose for construction over the next decade.

"There thus seems every justification for the Federal government making better transportation and communication available to its citizens and aiding in the development of a new industry through a well-planned, comprehensive Federal-aid airport program.

Administrator T. P. Wright's London Address

(Continued from page 61)

auguring security organizations heretofore . . . were not successful . . . in no small measure because of the absence of a policing medium having the qualities essential to the job: certainty, speed, mobility and effectiveness. Land and sea forces alone do not fulfill the requirements. But now with the airplane developed to its present stage, the world becomes of manageable size."

Fifty bases throughout the world and a total force of some 50,000 planes would be appropriate for an international air police force, Mr. Wright said.

Picturing the role of aviation in the present war, Mr. Wright said:

"The manufacture of aircraft (completely applied to the waging of war) has, in the United States, attained a relation, when compared to total munitions output, of 27%; to total manufacturing output of all kinds, of 20%; to total national income, of 10%. These facts, considered in conjunc-

UNITED STATES EMPLOYMENT—DERIVED FROM AVIATION A FORECAST—8-12 YEARS AFTER THE WAR

MANUFACTURING — (+1)		
PERSONAL AIRCRAFT	100,000	
TRANSPORT AIRCRAFT	25,000	
TOTAL	125,000	
MILITARY	210,000	
TOTAL MANUFACTURING	335,000	
AIR TRANSPORTATION — (+2)		
SCHEDULED (DOMESTIC)	115,000	
SCHEDULED (INTERNATIONAL)	30,000	
NONSCHEDULED	30,000	
TOTAL	175,000	
SERVICE INDUSTRY	80,000	
GOVERNMENT	20,000	
TOTAL AIR TRANSPORTATION	275,000	
GRAND TOTAL — (+3)	610,000	(+4)

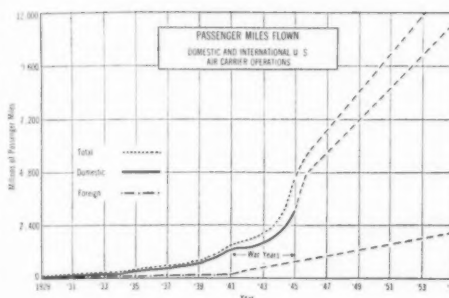
*1— INCLUDES "GRASS ROOTS" EMPLOYMENT AT 33% OF TOTAL.
*2— INCLUDES "GRASS ROOTS" EMPLOYMENT AT 20% OF TOTAL.
*3— THE MONEY VALUE OF THE PRODUCTS AND SERVICES GIVEN ARE JUST UNDER THREE BILLION DOLLARS.
*4— PREWAR EMPLOYMENT WAS 50,000, WAR-TIME PEAK, EXCLUDING UNIFORMED PERSONNEL, 2,750,000

tion with the deficiencies in manpower present in all countries and the very high percentage of female employees in war factories, stress the total character of modern warfare.

War Costs Stepped Up—"Economic efficiency in terms of war is economic inefficiency in terms of public welfare! The per capita cost of war has increased tremendously, even since World War I. It now costs over \$50,000 to kill one German or Jap. To kill each enemy soldier it cost Napoleon but \$3,000 and Caesar 75 cents! And there is no glamor in war. Well do I remember when visiting General Doolittle's Eighth Army Air Force headquarters last year that his first display was a gallery of pictures showing planes going down in flames or in pieces—our planes.

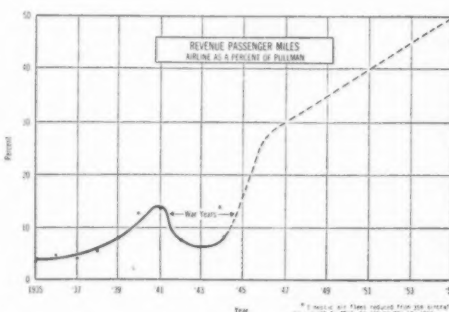
"Of great significance, however, from our present point of view, is the development of air transport during the war. Although its importance was little appreciated by us at the outset, its relative contribution to the war effort has increased by leaps and bounds since 1942. The transport plane has served many purposes, such as carrying of troops or paratroops, the towing of gliders, evacuation of wounded, transportation of officials and the establishment of important communications both over land and sea. In the Pacific war particularly, it has served as the work horse of the other services, transporting materials for the construction of air fields, carrying food to isolated troops, carrying spare parts and even machines of large size, and performing every possible type of service in the island warfare. Progress could not have been so rapid as it has been by a wide margin without the air transport planes which have been made available during the last three years.

Transport Planes in Peace—"It should be noted that, with the exception of the specific military character of some of its cargoes, all uses developed during the war for the air transport plane will have direct application to peace-time functions.



Turning to postwar fields of usefulness for aircraft, Mr. Wright had this to say: "One of the most promising uses of the airplane and the one most important from the standpoint of world economics is foreign commerce. When the airplane finds its proper place in this field, and when confidence in the hoped-for world security organization is established, there will be no need for the uneconomical measures of self-sufficiency which are so paramount in the minds of many at this time. The interdependence of nations in our machine age is becoming more and more apparent. For example, an automobile manufactured in the United States uses materials normally obtained from nine locations in widely-scattered sections of the world. Even a telephone requires materials from seven. This all points towards the economic unity of the world.

"There is, furthermore, the influence of world-wide use of the airplane upon geographic division of labor, so that people in all parts of the world can perform the services for which they are the best adapted from the standpoint of skills, climate or proximity to labor or material sources. We thus see that ultimately political unity rests upon rapid means of transportation and communication. Here the airplane's greatest contribution can be expected."



Air Express Service Increased

An increase in volume and frequency of air express service is announced by five airlines. The new schedules will provide additional shipping space on the airlines operating over the following routes:

United Air Lines, Inc.: Between Boston, Mass., and Chicago, Ill., via Hartford, Conn.; and between Pendleton, Ore., and Spokane, Wash., thereby again serving Walla Walla, Wash.

Northeast Airlines, Inc.: Boston and New York on a daily basis.

American Airlines, Inc.: Reinauguration of flights at Peoria, Ill.

Chicago and Southern Air Lines, Inc.: Reinauguration of service at Peoria, Ill.

Transcontinental and Western Air, Inc.: Three flights daily between Boston, Mass., and Pittsburgh, Pa., via Albany, N. Y., and Williamsport, Pa.

Communications Tower In Mid-Ocean Proposed

A MAN-MADE island to be anchored in the Atlantic between Bermuda and Europe for use by aircraft communicators and the Weather Bureau has been proposed by the Civil Aeronautics Administration.

The cost of the structure, which will be 90 by 100 feet, has been estimated at \$980,000 and a bill providing for it has passed the Senate. It must next be accepted by the House and appropriation for construction made before work can begin.

The area in which it is proposed to anchor the so-called "seadrome" is not traversed by regular ship routes and there is a corresponding gap in the weather map and weather observations so necessary for airplane operation.

CAA Endorses Chicago Downtown Port Plan

Endorsement by the Civil Aeronautics Administration of the plan for an experimental downtown airport for Chicago has been given by T. P. Wright, Administrator of Civil Aeronautics, in a letter to C. R. Mooney, Secretary of the National Aviation Trades Association, originators of the project.

"Your desire to prove the value of a landing place near to the business-industrial-banking-hotel center of a great city," Mr. Wright wrote, "is exactly the sort of enterprise the aviation industry should be showing. You are attacking the heart of the air transport problem, which has been seriously affected all these years by the necessity of locating airports far away from business centers. Unless the airplane can pick up its passengers and cargo from points close to their origin, and deliver them close to the final destination, air transport cannot perform its greatest service to the public."

Pointing out that the CAA is very much interested in the experiment to determine the safety of operations from such a downtown landing strip, Mr. Wright said he believed the Lake Front area of Chicago presented a promising location. In particular, the proposed site on Northley Island, now owned by the Chicago Park District, would provide at least a single landing strip. On this experimental downtown landing strip, the NATA proposes to encourage non-scheduled private flying operations in day time operations, under contact flying conditions only, and would place in charge one of the ablest operators among its members.

"The CAA has established a policy for such landing places," Mr. Wright wrote. "It is particularly important that clear approaches be provided, conforming approximately to our approach standards for Class I airports, and that adequate steps be taken by the owner of the airport or the city to keep them clear. In fact, it is our recommendation that the site be selected and landing strips laid out to permit take-offs over clear areas such as rivers, parks, golf courses and fields. If such approaches are provided at the outset, it is believed that much could be accomplished to prevent future obstruction of them."

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